Arizona Department of Health Services

Bureau of State Laboratory Services
Office of Laboratory Licensure, Certification & Training

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SUBJECT: Information Update #12

1. The following information has been taken from an EPA Drinking Water Quality Assessment Branch guidance memo on the analysis of Arochlors:

   A. A PCB-compliance sample should be analyzed first for Aroclors using Method 505 or 508. If an Aroclor is detected, then a duplicate sample must be analyzed by Method 508A and Positive results must be quantitated and reported as decachlorobiphenyl to determine compliance with the MCL for PCBs. Negative Aroclor results from Methods 505 and 508 should be reported as "not detected" along with the laboratory's detection limit for each Aroclor. Method 508 is recommended over 505, because of the better sensitivity of the method due to a larger volume of sample used for the extraction. EPA considers further concentration, from the usual 5-mL, to be an acceptable change.
   B. EPA recommends that an Aroclor detection limit or pattern recognition level (PRL) be defined as the lowest level at which recognition of the Aroclor peak profile (pattern) is possible. While a method detection limit, calculated according to 40 CFR 136 Appendix B, is a useful benchmark for evaluating and comparing method sensitivity, it may not be an appropriate indicator of the level at which a multi-component mixture like Aroclor can be identified. A PRL of 0.0001 mg/L for each Aroclor will provide the sensitivity necessary to detect a concentration of an Aroclor that would exceed the PCB MCL as decachlorobiphenyl.
   C. Since Method 505 or 508 is used for identification and detection but not quantitation of Aroclors, calibration curve that is verified daily for each Aroclor is not necessary for compliance monitoring. However, a matrix spike is appropriate because it is important to know that the Aroclors are being recovered. Because it is important to verify Aroclor detection limits regularly, EPA recommends analysis of a different Aroclor standard at the Aroclor PRL on each analytical day. This schedule verifies the detection limit for each Aroclor every seventh analytical day.
   D. The regulations require the screen of Aroclor first by Methods 505 or 508. Direct analysis by Method 508A is not allowed because Method 508A is subject to false positives.

2. EPA is adding two methods for testing and monitoring solid waste under SW-846. The temperature requirement for pH measurements during testing has been clarified. The rule was effective on April 4,

1995 and will not require new reports or equipment. These methods will be included in SW-846 Update IIB. The two methods are 9040 B (pH Electronic Measurement) and 9045 C (Soil and Waste pH).

3. EPA has released Federal Register publication dated April 4, 1995, titled "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Technical Amendments; Final Rule". The effective date for this rule is May 4, 1995. No new methods are introduced. The technical amendments are; a) Update and\or correct errors and inadvertant omissions in the references to analytical methods; b) Several ASTM methods are removed and c) Typographical or editorial changes.

   The publication can be ordered from USEPA Water Resources Center by calling voice-mail (202) 260-7786.

4. EPA has approved Hach Method No. 8167 for Total Chlorine for drinking water, waste water and effluent analyses.

   The Following is a listing of the Hach methods that have been previously approved for effluent waste water analyses:
   -COD, Copper, Iron, Manganese, Nitrite, Zinc (in Federal Register)
   -BOD, downsized(midi) distillation apparatus for regulated cyanide
   analysis, Hach Test'N Tube digestion procedure for the analysis of Total Phosphorus.

   Our Office is communicating with EPA to get a current listing of all acceptable Hach methods.

5. Our Office received a notification from the Quality Assurance Division of USEPA that the following correction needs to be made, due to the accidental omission of the following text from paragraph 4, p. 4-46 of recent versions of Standard Method 4500-cl-G: (Inserted after section 4.g.)"To obtain total chlorine in one reading, add the full amount of potassium iodide at the start with the specified amounts of buffer reagent and DPD indicator. Read color after 2 minutes."

6. USEPA has developed Method 1664, "N-Hexane Extractable Material(HEM) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM) by Extraction and Gravimetry (Oil and Grease and Total Petroleum Hydrocarbons)". Methods 1664 is a Performance Based Method applicable to aqueous matrices (for survey and monitoring programs under Clean Water Act) requiring the use of n-hexane as the extraction solvent and gravimetry as the determinative technique. Alternative extraction and concentration techniques are allowed, provided that all the performance specifications are met. In addition, QC procedures designed to monitor precision and accuracy have been incorporated into Method 1664. This is a draft method and EPA anticipates that notification of a final rule establishing Method 1664 will be published in the Federal Register by July 1995. When this notice appears Method 1664 will be approved. For a free copy of the draft Method 1664 call USEPA Water Resource Center voice-mail at (202) 260-7786.

7. Laboratory Licensure Office met with the staff of APP (Aquifer Protection Program) to discuss some of the problem issues faced by ADEQ which could be easily resolved by better communication between ADEQ and the environmental laboratories. The following issues were discussed:

A. ADEQ is receiving some laboratory reports with the reporting limits higher than the enforceable Water Quality Standards; the laboratories should ask the clients 1) if the samples being submitted are for regulatory purposes, 2) if certain detection limits are to be achieved, 3) if they are interested in only certain target compounds or all the compounds in the method? If the reporting limits are higher than the WQS or Alert level, ADEQ will reject the data in the future.

B. The reports ADEQ receives do not indicate if the parameters that are being tested by the licensed laboratories are certified by Arizona; ADEQ would like the laboratories to indicate in the final reports if the parameters or the methods are certified, for example, a footnote saying "The tests performed in this report are Arizona certified".

C. ADEQ is looking for the laboratories that have the capability to do the following tests:

   1) Acid generation potential, 2) Acid neutralization potential and
   3) EPA 1312.
   Please call Prabha Acharya if you are already doing the above specified tests and the methods being used.

8. The eleventh annual "Waste Testing & Quality Assurance Symposium" is being held between July 23-28, 1995 at The Washington Hilton Hotel and Towers, Washington, DC. The deadline for registration is June 26, 1995. Phone: (202) 872-6286.

9. Hewlett-Packard is willing to organize a 3-day in-depth hands-on training workshop in Phoenix on GC and/or GC/MS Enviroquant software on "Data analysis and reporting". Each participant will be provided with a PC and a printer. The participant should have a basic knowledge of DOS and Windows. The workshop will cost $990.00/person/workshop. Please call Charmaine D'Souza if you are interested, at (602) 255-3454

10. Water Environment Federation is arranging a conference on "Environmental Laboratories: Testing the Waters" in Cincinnati on August 13-16, 1995. Phone: 1-800-666-0206, and select menu option #4.

11. If you have any questions regarding the Updates, please call Prabha Acharya, program manager, Technical Resources and Training, at the above numbers.